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Federal Communications Commission
45 L Street NE
Washington, DC 20554

Subject: Opposition to the Petition for Rulemaking of NextNav Inc., ECFS INBOX-1.401 - WT Docket No. 24-240

Dear Secretary,

I am writing on behalf of Nedap Inc., located in Burlington, Massachusetts, to express our deep concerns regarding the NextNav petition submitted to the Federal Communications Commission (FCC) under ECFS INBOX-1.401.

Nedap Inc. employs approximately 50 people and generates an annual turnover of $25 million. The NextNav petition would adversely impact our company's business which is focused on the development, manufacture, sale and deployment of RAIN RFID products and solutions that enhance operational efficiencies across several sectors (Retail, Livestock Management, and Vehicle Identification).

RAIN RFID (also known as passive UHF RFID) is a crucial technology that enhances the resilience and efficiency of America’s supply chains, businesses, and government agencies. As described in the Executive Order on Resilient Supply Chains of June 2024, the United States needs resilient, diverse, and secure supply chains to ensure our economic prosperity, public health, and national security. Resilient supply chains include greater domestic production; a diverse and agile supplier base; a reliable transportation system; secure critical infrastructure; adequate stockpiles; reliable food systems; and a world-class, globally competitive American manufacturing base.

RAIN RFID systems usage of the 860 to 960 MHz frequency band is regulated by a single global standard called GS1 UHF EPC Gen225 (which was adopted by the International Standards Organization as ISO/IEC 18000-63).

Over 200 billion RAIN RFID tag chips have shipped to date, with approximately 40% of those deployed in the U.S. As an “internet of things” this means 80 billion items have been tagged with RAIN RFID in the U.S., and the data from these tags has served to increase supply chain resilience through digital transformation in sectors including retail, logistics, healthcare, pharmaceuticals, automotive, aviation, smart manufacturing, food safety, energy, smart cities and others.

FCC specifically allowed RAIN RFID operation in the ISM band and the industry relied on that policy and has supplied billions of RAIN RFID tags into primarily Fortune 500 enterprises based on that policy.

The RAIN RFID industry is widely deployed in many critical applications across a broad range of industries. Disruption to any of these would result in significant negative socio-economic outcomes.

If the NextNav Inc. Petition for Rulemaking is awarded, this will have profound negative impacts on RAIN RFID operations in the U.S., destroying the resilience and efficiency of America’s supply chains, businesses and government agencies.

RAIN RFID benefits that would be destroyed by the NextNav Peition

Retail:

Approximately 50% of RAIN RFID tags are deployed in retail – equating to >40B tagged items in the U.S. alone to date. This sector is projected to grow at over 19% CAGR. Retail deployments maximize profitability and minimize costs in a segment which, as of the first quarter of 2024, accounted for approximately 6.3% of the U.S.
GDP by using RAIN RFID to:

- Enable “real time” accurate inventory & greater control over stock
- Increase productivity of the workforce by streamlining the inventory process
- Enable digital commerce business models
- Improve profitability by ensuring every item is sold
- Accurately manage the supply chain
- Detect and prevent losses and waste
    - In the United States, inventory waste is a significant issue across various sectors, including consumer packaged goods (CPG), food, and apparel. According to the USDA, food waste alone is estimated at between 30-40% of the food supply, equating to approximately 133 billion pounds and $161 billion worth of food annually. This includes waste generated at the retail and consumer levels.
    - The fashion industry generates over 17 million tons of textile waste annually, which includes waste from both retail stores and manufacturing processes. This figure represents a significant portion of municipal solid waste, with about 85% of textiles ending up in landfills or incinerated, while only 15% are collected for resale or recycling.

- Provide loss detection/prevention, anti-counterfeit and returns-fraud solutions (NRF estimates that returns-fraud alone represents 1.6% of total sales, which amounts to approximately USD $85 billion annually
- Automate checkout and provide frictionless payments
- Comply with the Food Safety Modernization Act for food traceability and supply-chain record keeping, including preventing shortages and stockouts, reducing waste and spoilage, increasing sustainability and improving transparency among trading partners.

Logistics:

3.4B RAIN RFID tag units were deployed globally in Logistics in 2023. This is projected to grow at a CAGR of 32%.

As of 2024, total U.S. business logistics costs are estimated to be $2.3 trillion, which translates to about 8.7% of the national GDP30 31. This sector includes transportation, warehousing, and inventory management, playing a critical role in supporting the economy by ensuring efficient movement and storage of goods. The logistics industry's contribution to GDP underscores its crucial role in facilitating trade and commerce, thereby driving economic growth. Furthermore, intelligent logistics, enabled by RAIN RFID, enhances supply chain resilience, ensuring efficiency and the timely delivery of critical supply chain needs.

The RAIN RFID benefits accruing to the Logistics sector include:

- Route optimization to increase efficiency
- Improving warehouse storage utilization capacity and reducing dwell time in logistics environments
- Real time inventory across the entire supply chain
- Reduction of lost items
- “Right first time” delivery
- Automating manual scanning (UPS, for example, is transitioning to a RAIN RFID-enabled “sensing” network as it looks to eliminate 130 million daily “scans”.)
- Proof of correct delivery
- Improved customer engagement and satisfaction
- Reducing logistics organization’s carbon footprints
- Condition-based monitoring (e.g. temperature monitoring)

Vehicle Identification:

Vehicle Identification systems, particularly in Access Control and Parking Access Control, rely heavily on RAIN RFID technology to manage and streamline the flow of vehicles in various environments, from corporate campuses to large-scale events. These systems are essential for maintaining security, optimizing parking space utilization, enhancing urban mobility infrastructure, and improving the overall user experience. The projected growth of RAIN RFID in this sector underscores its importance in modern access control solutions.

The advantages provided by RAIN RFID in the Vehicle Identification sector include:

- Enhanced security through reliable, automated vehicle access control.
- Efficient parking management by accurately tracking vehicle entry, exit, and occupancy, reducing congestion, and improving space utilization.
- Frictionless user experience with seamless, automated vehicle identification, reducing wait times and enhancing customer satisfaction.
- Cost savings by reducing the need for manual intervention and streamlining parking operations.
- Real-time data on vehicle movements, enabling better traffic flow management and decision-making.
- Integration with smart city initiatives, contributing to the broader infrastructure of intelligent transportation systems.

Livestock Management:

In the Livestock Management sector, particularly in Dairy farming, RAIN RFID technology plays a crucial role in monitoring and managing herd health, productivity, sustainability, and overall farm efficiency. Smart milk meters and other RFID-enabled devices are vital tools for modern dairy farmers, allowing for precise tracking of milk production, animal health, and feed efficiency.

The Dairy Management sector enjoys several key benefits from RAIN RFID technology, including:

- Accurate milk yield tracking through smart milk meters, enabling better herd management and optimized production.
- Enhanced animal health monitoring by providing real-time data on individual animals, allowing for early detection of health issues and reducing veterinary costs.
- Optimized feed management by tracking feed intake and adjusting diets to improve milk production and animal welfare.
- Improved breeding programs through data-driven insights into animal performance and reproductive health.
- Increased operational efficiency by automating data collection and reducing the need for manual record-keeping.
- Support for sustainable farming practices by enabling precise resource management and reducing waste.

The impact on Nedap Inc. as a result of awarding the NextNav petition

If the NextNav petition is granted, the impact on Nedap Inc. would be profound and far-reaching. Our business operations, which heavily rely on RAIN RFID technology across various sectors, would face significant disruption. Specifically, our Retail, Vehicle Identification, and Livestock Management Dairy divisions—comprising approximately 85% of our total business—would be adversely affected. The core functionalities that our solutions provide, such as real-time inventory management, secure and efficient vehicle access control, and precise dairy farm management, would be compromised. This could lead to reduced operational efficiency, increased costs, and diminished competitiveness in the market. Additionally, the potential loss of customer trust and the inability to meet industry standards could severely impact our revenue streams, threaten jobs, and undermine our position as a leader in these critical sectors. The cumulative effect of these disruptions would jeopardize the long-term sustainability of our business and the essential services we provide to our clients.

Request to reject the NextNav Rulemaking petition

We respectfully request that the NextNav Rulemaking petition should be refused due to the extensive negative impacts on RAIN RFID deployments and on supply chain resilience across multiple sectors and the detrimental effect on many companies including Nedap Inc.

Thank you for considering our position on this matter.

Sincerely,

Gaël Gozdek
President
Nedap Inc.